

|   |     |
|---|-----|
| MIROSLAV FIEDLER AND VLASTIMIL PTÁK (Praha, The Czech Republic)<br>A New Positive Definite Geometric Mean of Two Positive<br>Definite Matrices . . . . .  | 1   |
| FUZHEN ZHANG (Fort Lauderdale, Florida)<br>Quaternions and Matrices of Quaternions . . . . .  | 21  |
| Matjaž Omladič (Ljubljana, Slovenia) and Heydar Radjavi (Halifax, Nova<br>Scotia, Canada)<br>Irreducible Semigroups With Multiplicative Spectral Radius . . . . .   | 59  |
| G.-Y. LEE (Chung-Nam, Korea), S.-G. LEE (Suwon, Korea), AND H.-G. SHIN<br>(Chon-Buk, Korea)<br>On the $K$ -Generalized Fibonacci Matrix $Q_k^*$ . . . . .   | 73  |
| RITSUO NAKAMOTO (Hitachi, Ibaraki, Japan)<br>The Spherical Gap of Operators . . . . .   | 89  |
| CHARLES R. JOHNSON (Williamsburg, Virginia) AND JEREMY MILLER<br>(Ashland, Virginia)<br>Rank Decomposition Under Combinatorial Constraints . . . . .  | 97  |
| JAVIER TOLSA AND MIQUEL SALICHS (Barcelona, Spain)<br>Convergence of Singular Perturbations in Singular Linear Systems . . . .  | 105 |
| FRANK CRITCHLEY (Edgbaston, Birmingham, United Kingdom) AND<br>BERNARD FICHET (Marseille, France)<br>On (Super-) Spherical Distance Matrices and Two Results<br>From Schoenberg . . . . .                           | 145 |
| M. GRAÇA MARQUES, FERNANDO C. SILVA (Lisboa, Portugal), AND<br>ZHANG YU LIN (Coimbra, Portugal)<br>The Number of Invariant Polynomials of a Matrix With Prescribed<br>Complementary Principal Submatrices . . . . . | 167 |
| WILLARD L. MIRANKER (New Haven, Connecticut)<br>A Cache for an Associative Memory . . . . .   | 181 |
| G. HEINIG (Safat, Kuwait), L. A. SAKHNOVICH, AND I. F. TIDNIUK<br>(Odessa, Ukraine)<br>Paired Cauchy Matrices . . . . .   | 189 |
| LUZIUS GRUNENFELDER AND TOMAŽ KOŠIR (Halifax, Nova Scotia, Canada)<br>On a Representation of Commuting Maps by Tensor Products . . . . .  | 215 |

|   |     |
|---|-----|
| MIROSLAV FIEDLER AND VLASTIMIL PTÁK (Praha, The Czech Republic)<br>A New Positive Definite Geometric Mean of Two Positive<br>Definite Matrices . . . . .  | 1   |
| FUZHEN ZHANG (Fort Lauderdale, Florida)<br>Quaternions and Matrices of Quaternions . . . . .  | 21  |
| Matjaž Omladič (Ljubljana, Slovenia) and Heydar Radjavi (Halifax, Nova<br>Scotia, Canada)<br>Irreducible Semigroups With Multiplicative Spectral Radius . . . . .   | 59  |
| G.-Y. LEE (Chung-Nam, Korea), S.-G. LEE (Suwon, Korea), AND H.-G. SHIN<br>(Chon-Buk, Korea)<br>On the $K$ -Generalized Fibonacci Matrix $Q_k^*$ . . . . .   | 73  |
| RITSUO NAKAMOTO (Hitachi, Ibaraki, Japan)<br>The Spherical Gap of Operators . . . . .   | 89  |
| CHARLES R. JOHNSON (Williamsburg, Virginia) AND JEREMY MILLER<br>(Ashland, Virginia)<br>Rank Decomposition Under Combinatorial Constraints . . . . .  | 97  |
| JAVIER TOLSA AND MIQUEL SALICHS (Barcelona, Spain)<br>Convergence of Singular Perturbations in Singular Linear Systems . . . .  | 105 |
| FRANK CRITCHLEY (Edgbaston, Birmingham, United Kingdom) AND<br>BERNARD FICHET (Marseille, France)<br>On (Super-) Spherical Distance Matrices and Two Results<br>From Schoenberg . . . . .                           | 145 |
| M. GRAÇA MARQUES, FERNANDO C. SILVA (Lisboa, Portugal), AND<br>ZHANG YU LIN (Coimbra, Portugal)<br>The Number of Invariant Polynomials of a Matrix With Prescribed<br>Complementary Principal Submatrices . . . . . | 167 |
| WILLARD L. MIRANKER (New Haven, Connecticut)<br>A Cache for an Associative Memory . . . . .   | 181 |
| G. HEINIG (Safat, Kuwait), L. A. SAKHNOVICH, AND I. F. TIDNIUK<br>(Odessa, Ukraine)<br>Paired Cauchy Matrices . . . . .   | 189 |
| LUZIUS GRUNENFELDER AND TOMAŽ KOŠIR (Halifax, Nova Scotia, Canada)<br>On a Representation of Commuting Maps by Tensor Products . . . . .  | 215 |

*Table of Contents continued*

|   |     |
|---|-----|
| J. P. HENNIGER (Peterborough, Ontario, Canada)  |     |
| Factorization and Similarity in $GL(2, \mathbb{Z})$   | 223 |
| M. Q. RIECK (Tampa, Florida)  |     |
| Totally Isotropic Subspaces, Complementary Subspaces, and Generalized Inverses                | 239 |
| L. LOPEZ AND T. POLITI (Bari, Italy)  |     |
| Tridiagonal Splittings in the Conditioning and Parallel Solution of Banded Linear Systems     | 249 |
| M. M. KONSTANTINOV, P. HR. PETKOV, D.-W. GU, AND I. POSTLETHWAITE (Leicester, United Kingdom) |     |
| Perturbation Analysis of Orthogonal Canonical Forms   | 267 |
| VAIDYANATH MANI (Atlanta, Georgia) AND ROBERT E. HARTWIG (Raleigh, North Carolina)            |     |
| Generalized Polynomial Bases and the Bezoutian  | 293 |
| C. JANSSON (Hamburg, Germany)   |     |
| Calculation of Exact Bounds for the Solution Set of Linear Interval Systems                   | 321 |
| HARI BERCOVICI, WING SUET LI, AND THOMAS SMOTZER (Bloomington, Indiana)                       |     |
| Classical Linear Algebra Inequalities for the Jordan Models of $C_0$ Operators                | 341 |
| HAJA N. RAZAFINJATOVO (Harrisonburg, Virginia)  |     |
| Discrete Irregular Sampling With Larger Gaps  | 351 |
| AUTHOR INDEX  | 373 |